



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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ACTING COMMISSIONER

MEMORANDUM

**TO:** Board of Environmental Protection  
**FROM:** James Brooks, Bureau of Air Quality  
**DATE:** April 21, 2011  
**RE:** Adoption: Repeal and Replacement of Chapter 117 Source Surveillance

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**Statutory and Regulatory Reference:**

A. Statutory authority.

38 MRSA Section 585-A provides that the Board of Environmental Protection "may establish and amend regulations to implement ambient air quality standards and emission standards. These regulations shall be designed to achieve and maintain ambient air quality standards and emission standards within any region and prevent air pollution."

B. Specific legal mandates requiring adoption.

**40 CFR Part 60 New Source Performance Standards** establishes provisions for complying with federal air emission standards established as a result of the Clean Air Act. Any owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). This federal regulation contains emission guidelines and compliance times for the control of certain designated pollutants in accordance with section 111(d) and section 129 of the Clean Air Act.

**40 CFR Parts 61 and 63 National Emission Standards for Hazardous Air Pollutants.** The Clean Air Act requires EPA to regulate emissions of toxic air pollutants from a published list of industrial sources referred to as "source categories." As required under the Act, EPA has developed a list of source categories that must meet control technology requirements for these toxic air pollutants. The EPA is required to develop regulations (also known as rules or standards) for all industries that emit one or more of the pollutants in significant quantities.

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**40 CFR Part 75 Acid Rain Program.** The provisions of this title are implemented by permits issued to units subject to this title (and enforced) in accordance with the provisions of Title V of the Clean Air Act of 1990. Any such permit issued by the Administrator, or by a State with an approved permit program, shall prohibit: (1) annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide the owner or operator, or the designated representative of the owners or operators, of the unit hold for the unit, (2) exceedances of applicable emissions rates. No permit shall be issued that is inconsistent with the requirements of this title, and Title V as applicable. Each permit shall be accompanied by a compliance plan for the source to comply with these requirements that includes continuous emissions monitoring.

**Location/Applicability:**

The proposed amendments will apply statewide.

**Description:**

The purpose of the repeal and replacement of this rule is to clarify, update and standardize requirements for air emission sources that are required to continuously monitor their emissions. The intent is to clarify the procedural protocol for continuous emissions monitoring that is required by air emissions operating permits. Chapter 117 was initially adopted in August 1988 and last updated in May 1994.

There has been a significant improvement in emissions monitoring technology since 1994. This rule enables the owners and operators, as well as Department staff to better analyze and quantify emissions and provides a clear protocol for making a determination that sources are, or are not, in compliance with their established permit requirements. It clarifies the protocol for existing gaseous pollutant monitoring as well as providing a standard protocol for emerging gaseous pollutant monitoring that is anticipated to increase over the next decade.

In 2009 the Department held a public workshop to solicit input on suggested changes to Chapter 117. Based on that input the Department drafted proposed amendments to this rule; the Board held a public hearing on these proposed changes on December 6, 2010. The end of comments deadline was December 27, 2010.

The Department received comments from four interested parties. These comments have been addressed as described in the Supplemental Basis Statement to best accommodate needs identified by affected facilities and to clarify language.

In particular, the Department received comments from the Environmental Protection Agency (EPA). EPA had concerns with the language under the Data Recovery Requirements section of the rule which prohibits the Department from initiating enforcement action if the monitoring system records accurate and reliable data for 90% of the source-operating time in a calendar quarter (95% for opacity). In light of this, EPA recommended that the Department work with the Maine Legislature to modify the language in the underlying statute, Title 38 MRSA Section 589(3), which limits enforcement authority and could be misinterpreted as granting an express exemption from data recovery requirements in regulations such as Chapter 117. However, recognizing the challenges that legislative changes can present, EPA recommended revisions to Chapter 117 that could be used to clarify the requirements of this regulation. The Department

addressed the EPA concerns with added provisions to the Data Recovery Requirements that prohibit intentional withholding of emissions data and would require replacement of a CEMS (or COMs) that is inoperable for more than 10% (5% for COMs) of the time over four calendar quarters. Once the revised Chapter 117 is adopted, the Department will submit the revised rule to EPA as a State Implementation Plan (SIP) revision. 049

### **Environmental Issues:**

Chapter 117 establishes continuous emission monitoring protocol for Criteria and Hazardous Air Pollutants by sources whose air emission license or federal mandates have identified as a significant source of such pollutants.

**Criteria Pollutants:** EPA has been developing programs to cut emissions of commonly found air pollutants since the Clean Air Act was passed in 1970. Six common air pollutants are found all over the United States. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. These pollutants can harm your health and the environment, and cause property damage. Ground level ozone and particulate matter are criteria pollutants of greater concern in Maine.

**Ground-level ozone** is a primary component of smog. Ground-level ozone can cause human health problems and damage forests and agricultural crops. Repeated exposure to ozone can make people more susceptible to respiratory infections and lung inflammation. It also can aggravate pre-existing respiratory diseases, such as asthma. Children are at risk from ozone pollution because they are outside, playing and exercising, during the summer days when ozone levels are at their highest. They also can be more susceptible because their lungs are still developing. People with asthma and even active healthy adults, such as construction workers, can experience a reduction in lung function and an increase in respiratory symptoms (chest pain and coughing) when exposed to low levels of ozone during periods of moderate exertion.

The two types of chemicals that are the main ingredients in forming ground-level ozone are called volatile organic compounds (VOCs) and nitrogen oxides (NOx). VOCs are released by cars burning gasoline, petroleum refineries, chemical manufacturing plants, and other industrial facilities. The solvents used in paints and other consumer and business products contain VOCs. Nitrogen oxides (NOx) are produced when cars and other sources like power plants and industrial boilers burn fuels such as gasoline, coal, or oil. The reddish-brown color you sometimes see when it is smoggy comes from the nitrogen oxides.

The pollutants that react to form ground-level ozone literally cook in the sky during the hot summertime season. It takes time for smog to form-several hours from the time pollutants get into the air until the ground-level ozone reaches unhealthy levels.

**Particulate Matter:** EPA scientists and other health experts are concerned about particle pollution because very small or "fine" particles can get deep into the lungs. Fine particulates can aggravate lung diseases such as asthma, emphysema and bronchitis. Children, the elderly and those with respiratory problems are most at risk from exposure to PM. In addition, there is now an extensive array of medical research evidence that even short term

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exposure to ultrafine particle matter, causes cardiovascular affects that can lead to changes in heart rhythm, systemic inflammation, vascular function (e.g. blood pressure, vessel constriction), reduced coagulation factors, arrhythmias, and sudden cardiac death. Current health research, documented in 2010, indicates that ultra fine particle matter can even induce inflammation in the brain; such particles have now been documented to actually transfer through cells and travel into the brain and circulatory systems.

**Other Pollutants of Concern include Hazardous Air Pollutants:** Toxic or Hazardous Air Pollutants are known to cause or are suspected of causing cancer, birth defects, reproduction problems, and other serious illnesses. Exposure to certain levels of some toxic air pollutants can cause difficulty in breathing, nausea or other illnesses. Exposure to certain toxic pollutants can even cause death. Persistent air toxics can remain in the environment for a long time and can be transported great distances. Toxic air pollutants, like mercury or polychlorinated biphenyls, deposited onto soil or into lakes and streams persist and bioaccumulate in the environment. They can affect living systems and food chains, and eventually affect people when they eat contaminated food. This can be particularly important for American Indians or other communities where cultural practices or subsistence life styles are prevalent.

**Departmental Recommendation:**

The Department recommends that the Board adopt the repeal and replacement of Chapter 117.

**Estimated Time of Presentation:**

15 minutes